# E-Cigarette Aerosol Analysis Report



**Applicant:** **N0N Inc.**

**Address:** **601-80 Rue Queen, Montreal, QC, H3C 2N5, CANADA**

**The following sample was submitted and identified by/on behalf of the client as:**

Sample Name: NO SAINT Rich Tobacco Blend Pod

Model No.: N0N01N1

Flavor: Rich Tobacco Blend

Nicotine Conc.: 20mg/mL

Power level in testing: Voltage/Wattage of tested sample is un-adjustable

Manufacturer: Shenzhen Eigate Technology Co., Ltd.

Address: Floor 1-4, Building 3, No.14 Jian'an Road, Shajing Sub-district, Bao'an District, Shenzhen, Guangdong Province, 518103 China.

Sample Received Date: 2024.12.05

Testing Period: 2024.12.05—2024.12.13

Test Method: Please refer to the following page(s).

Test Result(s): Please refer to the following page(s).

| Test Items | | Test Requested |
|---|---|---|
| 1 | Nicotine consistency | Emission testing according to Article 20 of Tobacco Product Directive (2014/40/EU) and Part 6 of the Tobacco and Related Products Regulations 2016 (TRPR) |
| 2 | Carbonyl Compounds: Formaldehyde, Acetaldehyde, Acrolein, Crotonaldehyde | |
| 3 | Metals: Aluminum, Chromium, Iron, Nickel, Tin, Lead, Cadmium, Arsenic, Antimony, Mercury, Copper | |
| 4 | Diacetyl and Pentane 2,3 dione | |
| 5 | Ethylene Glycol and Diethylene Glycol | |
| 6 | Specific Nitrosamines: N-nitrosonornicotine(NNN), 4-(N-methylnitrosamino)-1-(3-pyridyl)-1-butanone(NNK), N-nitrosoanatabine(NAT), N-nitrosoanabasine(NAB) | |
| 7 | VOC substances: Toluene, Benzene, 1,3-Butadiene, Isoprene | |

Checked by

Evan Fang

Approved by

Ryan Zhang

Technical Manager

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**Test Conditions:**

**Vaping Regimens**

Set vaping machine parameters according to customer requirements.

| | |
|---|---|
| Puff Duration | 3.0s±0.1s |
| Puff Volume | 100mL±0.3mL |
| Puff Frequency | 30s±0.5s |
| Puff of Each Group | 20 |
| Group Interval Time | 300s±120s |
| Maximum Flow | 33.3mL/s±1.8mL/s |
| Pressure Drop | < 1000 Pa±50 Pa |
| Group | 5 |
| Total Number of Puff | 100 |
| Total Duration of Vaporization | 300s |

**Temperature & Humidity Conditions**

The testing will be performed in a space with relatively stable temperature and humidity environment,

| Condition | Vaping Room | Preparation Room | Testing Room |
|---|---|---|---|
| Temperature (°C) | 22±2 | 20-30 | 20-30 |
| Relative Humidity (%) | 60±5 | 30-70 | 30-70 |

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**Test Methods and Instruments:**

| Test Items | Method of Aerosol Testing | Instruments |
|---|---|---|
| Nicotine consistency | Afnor XP D90-300-3:2021 Annex A.3 | GC-FID |
| Formaldehyde<br>Acetaldehyde<br>Acrolein<br>Crotonaldehyde | Afnor XP D90-300-3:2021 Annex A.5 | HPLC-UV |
| Aluminum<br>Chromium<br>Iron<br>Nickel<br>Tin<br>Lead<br>Cadmium<br>Arsenic<br>Antimony<br>Mercury<br>Copper | Afnor XP D90-300-3:2021 Annex A.6 | ICP-MS |
| Diacetyl<br>Pentane 2,3 dione | Afnor XP D90-300-3:2021 Annex A.4 | GC-MS |
| Ethylene Glycol<br>Diethylene Glycol | SOP-CL-090 | GC-FID |
| N-nitrosonornicotine(NNN)<br>4-(N-methylnitrosamino)-1-(3-pyridyl)-1-butanone(NNK)<br>N-nitrosoanatabine(NAT)<br>N-nitrosoanabasine(NAB) | CORESTA Recommended Method No. 75(2022) | LC-MS/MS |
| Toluene<br>Benzene<br>1,3-Butadiene<br>Isoprene | CORESTA Recommended Method No.70 (2019) | GC-MS |

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**Test Results**

**1. Nicotine consistency**

| Test Item | CAS No. | LOD mg/100puffs | LOQ mg/100puffs | Result(s) 1 | TPM mg/100 puffs |
|---|---|---|---|---|---|
| Nicotine | 54-11-5 | 0.00622 | 0.0198 | 4.51 | 278 |

**2. Carbonyl Compounds Content(s)**

| Test Item | CAS No. | Unit | LOD | LOQ | Result(s) | Limit |
|---|---|---|---|---|---|---|
| Formaldehyde | 50-00-0 | μg/100puffs | 0.252 | 0.836 | 6.17 | 100 |
| Acetaldehyde | 75-07-0 | μg/100puffs | 0.420 | 1.40 | 8.98 | 1600 |
| Acrolein | 107-02-8 | μg/100puffs | 0.392 | 1.31 | N.D. | 8 |
| Crotonaldehyde | 4170-30-3 | μg/100puffs | 1.43 | 4.54 | N.D. | - |

**3. Metals Content(s)**

| Test Item | CAS No. | Unit | LOD | LOQ | Result(s) | Limit |
|---|---|---|---|---|---|---|
| Aluminum(Al) | 7429-90-5 | μg/100puffs | 0.025 | 0.080 | N.D. | - |
| Chromium(Cr) | 7440-47-3 | μg/100puffs | 0.0088 | 0.028 | N.D. | 1.5 |
| Iron(Fe) | 7439-89-6 | μg/100puffs | 0.017 | 0.055 | N.D. | - |
| Nickel(Ni) | 7440-02-0 | μg/100puffs | 0.017 | 0.054 | N.D. | 2.5 |
| Tin(Sn) | 7440-31-5 | μg/100puffs | 0.028 | 0.090 | N.D. | - |
| Lead(Pb) | 7439-92-1 | μg/100puffs | 0.0063 | 0.020 | N.D. | 2.5 |
| Cadmium(Cd) | 7440-43-9 | μg/100puffs | 0.0095 | 0.030 | N.D. | 1.5 |
| Arsenic(As) | 7440-38-2 | μg/100puffs | 0.010 | 0.032 | N.D. | 1 |
| Antimony(Sb) | 7440-36-0 | μg/100puffs | 0.0079 | 0.025 | N.D. | 10 |
| Mercury(Hg) | 7439-97-6 | μg/100puffs | 0.0056 | 0.018 | N.D. | 0.5 |
| Copper(Cu) | 7440-50-8 | μg/100puffs | 0.030 | 0.095 | N.D. | - |

**4. Diacetyl and Pentane 2,3 dione Content(s)**

| Test Item | CAS No. | Unit | LOD | LOQ | Result(s) | Limit |
|---|---|---|---|---|---|---|
| Diacetyl | 431-03-8 | μg/100puffs | 3.91 | 12.4 | N.D. | 245 |
| Pentane 2,3 dione | 600-14-6 | μg/100puffs | 7.83 | 24.9 | N.D. | - |

**5. Ethylene Glycol and Diethylene Glycol Content(s)**

| Test Item | CAS No. | Unit | LOD | LOQ | Result(s) |
|---|---|---|---|---|---|
| Ethylene Glycol | 107-21-1 | μg/100puffs | 7.77 | 24.7 | N.D. |
| Diethylene Glycol | 111-46-6 | μg/100puffs | 9.47 | 30.1 | N.D. |

**6. Specific Nitrosamines Content(s)**

| Test Item | CAS No. | Unit | LOD | LOQ | Result(s) |
|---|---|---|---|---|---|
| N-nitrosonornicotine(NNN) | 80508-23-2 | μg/100puffs | 0.0026 | 0.0083 | N.D. |
| 4-(N-methylnitrosamino)-1-(3-pyridyl)-1-butanone(NNK) | 64091-91-4 | μg/100puffs | 0.0029 | 0.0092 | N.D. |
| N-nitrosoanatabine(NAT) | 887407-16-1 | μg/100puffs | 0.0034 | 0.011 | N.D. |
| N-nitrosoanabasine(NAB) | 37620-20-5 | μg/100puffs | 0.0014 | 0.0044 | N.D. |

**7. VOCs Content(s)**

| Test Item | CAS No. | Unit | LOD | LOQ | Result(s) |
|---|---|---|---|---|---|
| Toluene | 108-88-3 | μg/100puffs | 1.83 | 5.84 | N.D. |
| Benzene | 71-43-2 | μg/100puffs | 2.71 | 8.64 | N.D. |
| 1,3-Butadiene | 106-99-0 | μg/100puffs | 3.34 | 10.6 | N.D. |
| Isoprene | 78-79-5 | μg/100puffs | 2.26 | 7.19 | N.D. |

Note:
- mg = milligram
- µg = Microgram
- N.D. = Not Detected (less than LOD)
- LOD = Limit of Detection
- LOQ = Limit of Quantification
- TPM = Total particulate matter
- Limits of the test items refer to Afnor XP D90-300-3:2021

**Specimen Description:**

No.1 NO SAINT Rich Tobacco Blend Pod

**Method Summary**

1. **Nicotine in Aerosol**

   According to Afnor XP D90-300-3:2021 Annex A.3, wipe the clamp with isopropyl alcohol. Let stand for a minute. The aerosol generated by the e-cigarette is absorbed by the Cambridge filter. Remove the Cambridge filter and place it into a centrifuge tube, add 20 mL of Isopropyl alcohol and 0.2ml internal standard stock solution. Shaken at 210 rpm for 30 min and the solution was filtered and analyzed by GC-FID.

2. **Carbonyl Compounds in Aerosol**

   According to Afnor XP D90-300-3:2021 Annex A.5, wipe the clamp with isopropyl alcohol. Let stand for a minute. The aerosol generated by the e-cigarette is absorbed by the impactor containing 40mL acidified solution of 2, 4-dinitrophenylhydrazine (DNPH) in acetonitrile. The solution was filtered and analyzed by HPLC-UV.

3. **Metals in Aerosol**

   According to Afnor XP D90-300-3:2021 Annex A.6, Connect two impactors in series with 20 mL nitric acid added in advance to collect aerosols. Set the parameters of the vaping machine and start the test. After aerosols collection is completed, the solution was filtered and analyzed by ICP-MS.

4. **Diacetyl and Pentane 2,3 dione in Aerosol**

   According to Afnor XP D90-300-3:2021 Annex A.4, the aerosol generated by the e-cigarette is absorbed by the impactor containing 20mL methanol. The solution was filtered and analyzed by GC-MS.

5. **Ethylene Glycol and Diethylene Glycol in Aerosol**

   According to SOP-CL-090, wipe the clamp with isopropyl alcohol. Let stand for a minute. 20 ml of methanol was added to the impactor and placed in series with the Cambridge filter to absorb the aerosol. The Cambridge filter was removed and placed in methanol, shaken at 210 rpm for 30 min, and the solution was filtered and analyzed by GC-FID.

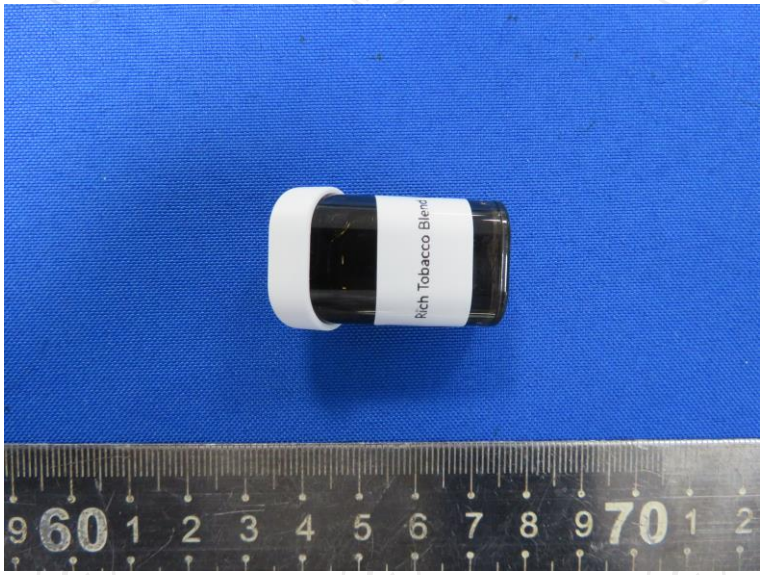
6. **Specific Nitrosamines in Aerosol**

   According to CORESTA Recommended Method No. 75(2022), wipe the clamp with isopropyl alcohol. Let stand for a minute. The aerosol generated by the e-cigarette is absorbed by Cambridge filter, and the Cambridge filter was removed and placed in an Erlenmeyer flask, added to 20 mL of 100 mM ammonium acetate solution, shaken at 210 rpm for 60 min, filtered and analyzed by LC-MS/MS.

7. **VOCs in Aerosol**

   According to CORESTA Recommended Method No.70 (2019), wipe the clamp with isopropyl alcohol. Let stand for a minute. 20 ml of methanol was added to the impactor and placed in series with the Cambridge filter to absorb the aerosol. The Cambridge filter was removed and placed in methanol, shaken at 210 rpm for 30 min, and the solution was filtered and analyzed by GC-MS.

# Photo(s) of the sample(s)




***** End of Report *****

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